



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/699,869

11/04/2003

Yi-Ru Chen

3319-0106P

5117

2292

7590

09/03/2004

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

KWOK, HELEN C

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,869

Applicant(s)

CHEN ET AL.

Examiner

Helen C. Kwok

Art Unit

2856

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1-18 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 6, the phrase "the outside end" should be changed to – an outside end --. In line 10, the phrase "the top" should be changed to – a top --. In line 11, the phrase "the top" should be changed to – a top --.

In claim 6, line 2, the word – an – should be inserted before the word "arc".

In claim 7, line 3, the phrase "the top" should be changed to – a top --.

In claim 9, line 2, what is the word "there" referring to?

In claim 10, line 7, the phrase "the outside end" should be changed to – an outside end --. In line 11, the phrase "the top" should be changed to – a top --. In line 12, the phrase "the top" should be changed to – a top --.

In claim 14, line 3, the phrase "the axial center" should be changed to – an axial center --.

In claim 15, line 2, the word – an – should be inserted before the word "arc".

In claim 18, line 2, what is the word "there" referring to?

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 6, the phrase "the suspending arm" lacks antecedent basis. In line 7, the phrase "the suspending arm" lacks antecedent basis.

In claim 2, line 2, the phrase "the tops" lacks antecedent basis.

In claim 5, line 3, the phrase "the suspending arm" lacks antecedent basis. (two occurrences).

In claim 6, line 3, the phrase "each platform" is not clear on its meaning. How can there be "each" when there is only one platform claimed. It appears that in claims 1, the claim should claim a platform for each of the suspending arms. Please clarify.

In claim 7, line 3, the phrase "each platform" is not clear on its meaning. How can there be "each" when there is only one platform claimed. Please clarify.

In claim 8, line 3, the phrase "the suspending arm" lacks antecedent basis. In lines 4-5, the phrase "the capacitance sensing electrode" lacks antecedent basis. In line 6, the phrase "the capacitance sensing electrode" lacks antecedent basis.

In claim 9, line 3, the phrase "the suspending arm" lacks antecedent basis.

In claim 10, lines 5-6, the phrase "the supporting pillar" lacks antecedent basis. In line 7, the phrase "the suspending arm" lacks antecedent basis. In line 8, the phrase "the suspending arm" lacks antecedent basis.

In claim 11, lines 2-3, the phrase "the tops" lacks antecedent basis.

In claim 14, line 3, the phrase "the suspending arm" lacks antecedent basis. (two occurrences).

In claim 15, line 3, the phrase "each platform" is not clear on its meaning. How can there be "each" when there is only one platform claimed. Please clarify.

In claim 16, line 3, the phrase "each platform" is not clear on its meaning. How can there be "each" when there is only one platform claimed. Please clarify.

In claim 17, line 3, the phrase "the suspending arm" lacks antecedent basis. In lines 4-5, the phrase "the static-electricity driving electrode" lacks antecedent basis. In lines 6-7, the phrase "the static-electricity driving electrode" lacks antecedent basis.

In claim 18, line 3, the phrase "the suspending arm" lacks antecedent basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,915,276 (Fell).

Fell discloses a rate sensor comprising, as illustrated in Figures 7-13, a base 21 arranged as a supporting hub 9; a plurality of suspending arms 8 arranged around the supporting hub are extended outwardly in radial direction; a platform 7 arranged at an outside end of the suspending arms extended toward two sides horizontally; driving electrode 24 arranged below the platform; a plurality of capacitance sensing electrodes 16, 18 arranged at a top of the platform. (See, column 7, line 7 to column 9, line 33).

With regards to claims 2-5, Fell further discloses the device is formed by micromachining technique or laser ablation technique; the suspending arms are at same altitude and parallel to the base; at least two or even-numbered suspending arms; and the platform extending symmetrically toward two sides of the suspending arms. (As observed in the figures).

With respect to claims 10-14, the claims are commensurate in scope with claims 1-5 and are rejected for the same reasons as set forth above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-7 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,915,276 (Fell) in view of U.S. Patent 4,499,778 (Westhaver et al.).

With regards to claims 6-7, Fell does not explicitly teach the configuration and shape of the platform as presently claimed. Westhaver et al. discloses a tuned gyroscope comprising, as illustrated in Figure 1, supporting hub having suspending arms 18a-18d extending outward from the hub to form a platform 16a-16d wherein the platform is arc or striped shaped and is a discontinuous ring or equilateral shaped. (See, column 4, lines 12-37; as observed in the figure). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability to employ the platform as suggested by Westhaver et al. to the apparatus of Fell to provide an excellent performance characteristics associated with a highly machined one piece suspension having a low cost of manufacture and to provide a flexure mount which is self-aligning. (See, column 2, lines 3-37 of Westhaver et al.).

With regards to claims 15-16, the claims are commensurate in scope with claims 6-7 and are rejected for the same reasons as set forth above.

Allowable Subject Matter

9. Claims 8-9 and 17-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2856

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to vibrational gyroscopes.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Helen C. Kwok

August 30, 2004